

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions and listings of claims in this application.

Listing of Claims:

Claims 1-130. (Cancelled).

131. (Currently Amended) A process of producing a concentrated, stabilized liquid biocide formulation which consists of the step of preparing the concentrated stabilized liquid biocide formulation by the step consisting of cofeeding to a reactor containing an aqueous solution formed from water, sulfamic acid and alkali metal base, (i) bromine and (ii) a solution of alkali metal base that maintains the pH of said concentrated, stabilized liquid biocide formulation produced in the reactor in the range of from about 12 to about 14, the bromine of (i) being the only source of bromine used in the process.

132. (Previously presented) A process according to claim 131 wherein said concentrated, stabilized liquid biocide formulation prepared in said step contains an amount of bromine that is no more than 26% of active bromine.

133. (Previously presented) A process according to claim 131 wherein said biocide formulation has an active bromine content of at least about 100,000 ppm (wt/wt) and an atom ratio of nitrogen to active bromine greater than 1.

134. (Previously presented) A process according to claim 131, wherein the pH is up to about 13.5.

135. (Currently Amended) A process of producing a concentrated liquid biocide composition, which process comprises

- A) continuously feeding into mixing apparatus (i) bromine and (ii) an aqueous solution of alkali metal salt of sulfamic acid having a pH of at least about 12, proportioned to produce an aqueous product having an active bromine content of at least 100,000 ppm (wt/wt), and an atom ratio of nitrogen to active bromine from (i) and (ii) greater than 1, and
- B) withdrawing said product from said mixing apparatus at a rate sufficient to enable the continuous feeding in A) to be maintained;

the bromine continuously fed into the apparatus in A) being the only source of bromine used in the process.

136. (Previously presented) A process according to Claim 135 wherein (ii) in A) is an aqueous solution of the sodium salt of sulfamic acid.

137. (Previously presented) A process according to Claim 136 wherein said atom ratio is in the range of about 1.1 to about 1.5.

138. (Previously presented) A process according to Claim 135 wherein said mixing apparatus comprises a static mixer.

139. (Previously presented) A process according to Claim 135 wherein said mixing apparatus comprises a vessel equipped with a mechanical stirrer.

140. (Previously presented) A process according to Claim 139 wherein said product is intermittently withdrawn from said vessel.

141. (Previously presented) A process according to Claim 139 wherein said product is continuously withdrawn from said vessel.

142. (Currently Amended) A process of producing a concentrated liquid biocide composition, which process comprises

- A) continuously feeding into mixing apparatus (i) a bromine stream and (ii) a separate feed stream of an aqueous solution of alkali metal salt of sulfamic acid having a pH of at least about 12, in proportions that produce an aqueous product having an active bromine content of at least 100,000 ppm (wt/wt), and an atom ratio of nitrogen to active bromine from (i) and (ii) greater than 1, and
- B) withdrawing said product from said mixing apparatus at a rate sufficient to enable the continuous feeding in A) to be maintained; and
- C) continuously, but alternately, withdrawing from at least one and then from at least one other of at least two reaction vessels, an aqueous solution of alkali metal salt of sulfamic acid at a rate that maintains said stream of (ii) in A), and during the time the solution is being withdrawn from said at least one of at least two reaction vessels, forming additional aqueous solution of alkali metal salt of sulfamic acid in said at least one other of at least two reaction vessels from which solution is not then being withdrawn;

the bromine stream continuously fed into the mixing apparatus in A) being the only source of bromine used in the process.

143. (Previously presented) A process according to Claim 142 wherein said aqueous solution of alkali metal salt of sulfamic acid is an aqueous solution of the sodium salt of sulfamic acid.

144. (Previously presented) A process according to Claim 142 wherein said aqueous solution of alkali metal wherein said atom ratio is in the range of about 1.1 to about 1.5.

145. (Previously presented) A process according to Claim 142 wherein said mixing apparatus comprises a static mixer.

146. (Previously presented) A process according to any of Claim 142 wherein said mixing apparatus comprises a vessel equipped with a mechanical stirrer.

147. (Previously presented) A process according to Claim 146 wherein in B) said aqueous product is intermittently withdrawn from said vessel.

148. (Previously presented) A process according to Claim 146 wherein in B) said aqueous product is continuously withdrawn from said vessel.

149. (Previously presented) A process according to Claim 142 wherein said mixing apparatus comprises a static mixer, and wherein said additional aqueous solution of alkali metal salt of sulfamic acid is formed from an alkali metal base, sulfamic acid, and water.

150. (Previously presented) A process according to Claim 142 wherein said mixing apparatus comprises a static mixer, wherein said aqueous solution of alkali metal salt of sulfamic acid is an aqueous solution of sodium sulfamate, and wherein said additional aqueous solution of alkali metal salt of sulfamic acid is formed from a water-soluble sodium base, sulfamic acid, and water.

151. (Previously presented) A process according to Claim 150 wherein said sodium base is an aqueous solution of sodium hydroxide, and wherein the sodium sulfamate is formed as an aqueous solution by charging to a reactor (i) an aqueous solution of sodium hydroxide, and (ii) a slurry of sulfamic acid in water, or (iii) separate charges of sulfamic acid and water, or (iv) both of (ii) and (iii).